

Resilience Training for Dutch Navy Recruits

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RESILIENCE TRAINING FOR DUTCH NAVY RECRUITS

The topic described in this abstract directly relates to the aim of the HFM to share national experience and evidenced-based approaches on interventions that build resilience. The presentation will be relevant for military professionals as well as research scientists.

Attrition within initial training of the Dutch Navy is high resulting in unnecessary costs and a lack of personnel to adequately fill the ranks. A resilience training was developed based on research into reasons for attrition and promising training interventions.

Goal of the training was to foster coping self-efficacy and self determination to persist when confronted with the stressful conditions of the basic training. A more long-term goal was to enhance psychological resilience among Navy personnel as a form of prevention of PTSD or stress-related problems. This resilience training in basic training was considered a starting point of a continuous effort to foster resilience of service members throughout their careers.

As the Navy recruit training can be considered in itself a stressful inoculation, the resilience training encompassed knowledge transfer and promoting awareness about psychological resilience combined with daily (coping) skills training by coaching of the trainers. The topics ranged from regulating personal expectations, developing healthy and effective coping styles and fostering self-regulation. In order to achieve maximum acceptance and transfer of training, the program was delivered by military instructors. The assumption was that they can relate best to the recruits and are able to integrate training topics in daily operations through daily coaching. As these trainers were not fully skilled to deliver the training, skilled resilience trainers also participated in parts of the program.

The effectiveness of this resilience training was tested. One cohort of Navy basic training received the resilience training (n = 51) and was compared to a control cohort (n = 141) on psychological measures related to resilience in basic training, i.e., coping, self-efficacy, self-determination, perceived value of Navy profession, and intent to persist/quit the training. Results showed that the cohort that received resilience training valued the Navy profession more and showed more effective ways of coping. Implications of these results will be discussed together with practical implementation guidelines for resilience training in basic training.

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14. ABSTRACT

The topic described in this abstract directly relates to the aim of the HFM to share national experience and evidenced-based approaches on interventions that build resilience. The presentation will be relevant for military professionals as well as research scientists. Attrition within initial training of the Dutch Navy is high resulting in unnecessary costs and a lack of personnel to adequately fill the ranks. A resilience training was developed based on research into reasons for attrition and promising training interventions. Goal of the training was to foster coping self-efficacy and self determination to persist when confronted with the stressful conditions of the basic training. A more long-term goal was to enhance psychological resilience among Navy personnel as a form of prevention of PTSD or stress-related problems. This resilience training in basic training was considered a starting point of a continuous effort to foster resilience of service members throughout their careers. As the Navy recruit training can be considered in itself a stressful inoculation, the resilience training encompassed knowledge transfer and promoting awareness about psychological resilience combined with daily (coping) skills training by coaching of the trainers. The topics ranged from regulating personal expectations, developing healthy and effective coping styles and fostering self-regulation. In order to achieve maximum acceptance and transfer of training, the program was delivered by military instructors. The assumption was that they can relate best to the recruits and are able to integrate training topics in daily operations through daily coaching. As these trainers were not fully skilled to deliver the training, skilled resilience trainers also participated in parts of the program. The effectiveness of this resilience training was tested. One cohort of Navy basic training received the resilience training (n = 51) and was compared to a control cohort (n =141) on psychological measures related to resilience in basic training, i.e., coping, self-efficacy, self-determination, perceived value of Navy profession, and intent to persist/quit the training. Results showed that the cohort that received resilience training valued the Navy profession more and showed more effective ways of coping. Implications of these results will be discussed together with practical implementation guidelines for resilience training in basic training.

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1.0 INTRODUCTION

In this paper we will first describe why the Dutch Military invested in research into a resilience program. Then, we will report the program design, followed by a description of the content and program delivery. Thereafter, we describe how the effectiveness of the program was measured including an introduction on the theoretical concepts, method description, results and conclusion. Finally, we discuss the implications of the resilience program for other training programs inside and outside the military.

1.1 Reasons for a resilience program for the Dutch Navy

Attrition within initial training of the Navy is high resulting in unnecessary costs and a lack of personnel to adequately fill the ranks. Attrition leads to inefficiency due to unnecessary costs of selection, education and training. Moreover it leads to motivation loss among personnel responsible for selection, education and training. A resilience training 'Resilience XL' was developed based on research into reasons for attrition and promising innovative training interventions. Goal of the training was to foster self-efficacy and self-determination to persist when confronted with the stressful conditions of the basic training. A more long-term goal was to enhance psychological resilience among Navy personnel as a form of prevention of PTSD or stress-related problems. This resilience training in basic training was considered a starting point of a continuous effort to foster resilience of service members throughout their careers.

1.2 Goals of 'Resilience XL'

The aim of the training program was to foster both specific person characteristics related to resilience (i.e. coping style and self-efficacy) as well as recruits' beliefs related to turnover (i.e., about the value of the training and their future job, and feasibility of finishing training). By enhancing these we expected a reduction in turnover on the short and long term.

1.2.1 Person characteristics

Important person characteristics that enable people to effectively cope with stressful situations are coping style and coping self-efficacy. Coping style refers to the way people generally deal with stressful situations (Carver & Scheier, 1989; 1994). People have a habitual way of coping with stress. Those who have a more problem-focused coping style tend to actively find solutions to manage the source of the stress whereas those who have an emotion-focused or passive style tend to deal with the emotions or to avoid the stressful situation. Self-efficacy refers to the beliefs people have about their capacity to perform on a certain task (Bandura, 1997). Self-efficacy in this study concerns the confidence recruits have in their own capacities to deal with stressful situations during Navy basic training. Earlier research has shown that people with a problem focused coping style and a strong self-efficacy can deal better with stressful circumstances (Delahaij, Gaillard, & van Dam, 2010; Folkman & Moskowitz, 2004; Bandura, 1997). Consequently, these people perform better and will less likely drop-out during stressful training programs.

The advantage in developing person characteristics such as coping style and self-efficacy is that students are able to deal with different stressful situations by themselves and are less dependent on situational resources like the right kind of leadership and group cohesion. Enabling individuals to deal with stressful situations by fostering resilience related person characteristics will also enhance transfer of training. The underlying goal is that trainee's not only learn how to deal with difficult moments during their training but will also be more resilient during their career and deployments. This will decrease their risk for stress related illness and turnover.

1.2.3 Enhancement of trainee's beliefs

Besides having specific person characteristics that enables trainee's to deal with stressful situations, the trainee's need to be motivated to persist in these difficult situations and finish the demanding training. Trainee's that have joined the training driven by *internal motivation* (for example because they enjoy the activities or because they think they can learn a lot) show more perseverance and ability to deal with difficult situations than trainee's that are driven by external motivation (for instance because they perceive it as a duty or because there is a prospect of a reward or punishment for dropping out) (self-determination motivation; Hardre & Reeve, 2000; Ryan & Connel, 1989). Therefore it is important that a resilience training aimed at reducing drop-out during basic training should be directed at beliefs that will influence the internal motivation of recruits. There are several beliefs that play an important role. First, the belief of feasibility of the training. If trainee's believe that a training is too difficult for them and they will not be able to finish, this will influence their internal motivation and their self-efficacy (Bandura, 1997). Second, students' beliefs about the value of the training (Hardre & Reeves, 2000) and the value of the future job (Mobley, et al., 1979) play an important role. Both have influence on the attractiveness of the training itself, the outcomes and thereby the intrinsic motivation to persist and finish the training.

For an important part, beliefs depend on a person's background and personality. However, new experience acquired during a training period can enhance or diminish beliefs. Beliefs can change over the course of basic training, and can thus be influenced by interventions. Influencing these beliefs in such a way that internal motivation increases during the training will lower turnover. However the intrinsic motivation can also be undermined if aspects of the training are disappointing because the trainee's receive insufficient guidance or get insufficient explanations about the reason why they have to undergo all these difficult situations.

1.3 Program design

The design of the training emanates from the above described aims of the training and was based on principles of Stress Exposure Training (SET) (Cigrang, Todd, & Carbone, 2000; Meichenbaum, 1985). The training was designed to integrate optimally with the existing program in order to avoid practical planning issues for the Recruit training school. In the following paragraph we describe how the aims and SET principles were integrated in the Navy recruit training. A first aspect is '*Explicit knowledge transfer on resilience and motivation*'. Knowledge on general reactions to stress and how to cope with it are an important base for fostering self awareness and coping styles. As explicit knowledge transfer was no part of the existing recruit training, this aspect was included in the resilience program. A second aspect is '*Managing expectations*'. Realistic expectations about the feasibility and the value of the recruit training and Navy career are important in order to prevent later disappointments that can lead to lessened motivation eventually followed by attrition. As this aspect wasn't explicitly part of the existing recruit training, it was incorporated in the resilience program. A third element concerns '*gradual stress exposure*'. Important for the development of resilience, is that pupils experience how they react to stressful circumstances, that they learn effective coping styles and that their self-efficacy grows. Exposure to stress should be gradual in order to experience success in dealing with stressful situations which then fosters self-efficacy. If the exposure is too extensive in an early stage, it is more likely that recruits will fail in their coping efforts which can deteriorate their sense of self-efficacy. As graduated stress exposure is already an important goal of the recruit training, this aspect was not incorporated in the resilience program. Moreover changes in this aspect would have to many practical organizational consequences for the existing training. A fourth aspect is '*Support (by a coaching instructor)*'. Besides gradual exposure to stress, it is important for recruits to be supported in a personalized way in order to be exposed to the right level of challenge and the required coaching in fostering coping styles and self-efficacy. Moreover, the instructor is a role model and an important source of information of the recruit training and future Navy career. Therefore, the instructor has an important influence on beliefs of recruits that can strengthen their intrinsic motivation to finish a training. Within the Recruit training of the Navy, the right support from

instructors already receives a high priority. The instructors are selected on their motivation and competencies. Furthermore, they receive intensive training and they are aware of their role as coach. Besides these elements, the Resilience program adds the following aspects. First, the recruits are made aware of the support they could receive from this coaching instructor. Second, students are taught how to foster their own personal development and third, the instructors are made aware of the importance to enhance the recruits' autonomy in their personal development. A fifth element is '*Group cohesion*'. An important aspect in resilience development for students is to have access to social support. Classmates can be an important source of social support and also function as a role model for each other. They can strengthen the conviction that the training is achievable and can learn effective coping strategies from each other. Whether the group will be this important source, depends on the atmosphere in the class: if there is acceptance and openness and the safety to discuss difficult (emotional) issues, then the recruits can derive much social support from each other. Besides the influence of individual recruits on the group atmosphere, the leader, in this instance the instructor can influence group cohesion. He or she can install the right norms for communication and interaction. For the Navy recruit Training, group cohesion has been acknowledged as one of the most important goals. All mental and physically challenging tasks are aimed at togetherness and group cohesion. Also, the instructor explicitly discusses this aspects with the recruits. The addition of the Resilience Program is a group activity on discussing coping with difficult situations, how members of the group can support each other, what the instructor can accomplish and what the recruits can do. In this way the group develops shared language, knowledge and awareness on resilience and social support. The last aspect concerns '*Self awareness*'. Recruits' awareness of their own reactions to stress and preferred coping styles is relevant for developing resilience. This awareness will help them cope with future difficult situations throughout their careers. During Navy recruit training this awareness is fostered and recruits are given the opportunity to enhance their resilience (i.e., coping skills, beliefs). However these supporting conditions aren't always available during their following training and career. The resilience program aims to enhance their awareness of how they can enhance their resilience and how they can use this knowledge in future less supported difficult situations.

1.3.1 'Resilience XL', content description

Based on the above described aspects, we developed a program for the Navy Recruit Training that was called 'Resilience XL'. The program consisted of an knowledge and awareness enhancing program for the recruits in the first week of the training and two reminder interventions during difficult moments of the training. During their first weeks, recruits received a one day program consisting of five parts. First, an introduction mainly aimed at explaining the goals of the program and enticing the students to actively participate and make the program their own. Second, an activity on managing expectations about the recruit training, future training periods and Navy career. The activity was supported by a short video of recruits from previous Navy basic training sharing their experiences of the training. The aim was to have the recruits actively manage their own expectations by asking the right questions to the available Navy personnel and support each other in doing so. The third part was about coping styles. This part was supported by different exercises and again a video of previous recruits sharing what difficulties they encountered and how they coped with it. In part four, the recruits were made aware of the 'transfer of training' possibilities. For them, this training period might provide them the best support and context to develop aspects of resilience. In part four, they were challenged to interact with the instructor and the group on what they can expect from each other. This then is a start for an open and safe environment in which the instructor can help the recruits to develop their autonomy and resilience. In part five, the two reminder interventions in the upcoming weeks were discussed and the instructor recapitulates the day. Part six was aimed at the instructors only and served as a reminder on what he or she can do to foster resilience of the recruits on a daily basis. Part seven and eight were interventions during difficult moments of the program. The aim was to reinforce the knowledge and awareness taught in part one through five and foster open communication and learning during after stress exposure.

1.3.2 From design to delivery

In order to achieve maximum acceptance and transfer of training, the program was delivered by military instructors. The assumption was that they can relate best to the recruits and are able to integrate training topics in daily operations through daily coaching. As these instructors were not fully skilled to deliver the training, skilled resilience trainers also participated in parts of the program.

The program was designed after intensive interviews with recruits, instructors, trainers, mentors, and school leaders. It was then presented to a school staff delegation and adapted after hearing their comments. Working with a school delegation had two aims; first to ensure later success of implementation and second, an early knowledge transfer. The program was then piloted with one class and again adapted. With this definite program, we delivered a train the trainer day with pairs of military instructors and management trainers.

1.3.3 Program evaluation and effectiveness study

To assess the quality of the content and implementation of the program, trainers, instructors and their leaders were consulted during and after the training. To study the effectiveness of the training, one cohort of Navy basic training received the resilience program and were daily supported by an instructor that followed the train the trainer day and took part in two reminder meetings with the other trainers and instructors. In addition, recruits of a control cohort who did not receive resilience training were included in the study. Methods and results are discussed below.

2.0 PROGRAM EVALUATION

During and after the training, the resilience program was evaluated by the trainers, instructors and their leaders. Most important findings are that this program enables instructors to be more aware and explicit about the subjects 'self efficacy, managing expectations and coping'. It was not an entirely new subject but the resilience training stimulated the instructors to invest more attention and time to these underlying aspects. Especially, the subject of managing expectations was considered to have added value. There were also possibilities for improvement. First, the actual delivery of the program was less effective due to lack of time. Many activities were not part of the existing schedule and had to be done in extra time during an already very tight schedule. For example, a trainer and instructor teaming up, was often not achieved. Second, instructors advised to change the timing of the reminder interventions because recruits were too tired to really learn anything. The reminder interventions were planned during difficult moments of the training because of the importance of evaluation after stress exposure. The instructors suggested to let recruits recuperate before delivering the reminder intervention parts of the resilience XL program. Third, the roles of the instructor and trainer were evaluated. For the instructor it was difficult to 'change gears' between 'drill instructor' and 'supportive coach'. Therefore, it was important that they teamed up with a skilled resilience trainer. An important prerequisite to make this collaboration effective was that the instructor and trainer were able to work well together. Finally, belief in the effect of the resilience program could be improved. Motivation of instructors and trainers is vital for the success of the program delivery. During training delivery, motivation was not always optimal. Motivation could be improved by addressing the above mentioned issues. In addition, it takes time before a new program like Resilience XL is accepted by all sitting personnel. Integrating Resilience XL fully into Navy basic training will probably improve acceptance and subsequently implementation quality.

3.0 EFFECTIVENESS STUDY

To study the effectiveness of Resilience XL, recruits of an experimental cohort (who received Resilience XL) were compared to a control cohort (who did not receive Resilience XL) on attrition levels and the development of the person characteristics (i.e., coping style and self-efficacy) and beliefs (i.e., perceived training value, perceived job value, perceived instructor support) we assumed to be related to resilience in basic training.

3.1 Method

3.1.1 Participants & procedure

Two cohorts of recruits of Dutch Navy Basic training participated in the study. Training lasts 12 weeks and aims to facilitate the transfer to military life, teach basic military skills, and build stress tolerance. In the present study, a resilience training especially designed to contribute to Navy basic training was studied by providing the resilience training to a cohort of recruits. This ‘experimental’ cohort consisted of 51 recruits (mean age 20.6, SD 3.31). A second cohort, the ‘control’ cohort, did not receive resilience training. This cohort consisted of 141 recruits (mean age 19.5, SD 2.34). The experimental cohort received resilience training as described above. In addition, all participants were asked to fill out questionnaires at five different moments during Navy basic training (T1 to T5). The first three measurements (T1, T2, T3) were conducted in the first three weeks of basic training (each a week apart) as the recruits are exposed to many new and stressful events in this period. The fourth measurement (T4) was conducted at half time of the training (after 6 weeks) and the fifth measurement (T5) was conducted at the end of basic training (after 12 weeks). Recruits were informed about the goals and methods of the study at the beginning of basic training. It was explained that anonymity would be maintained, that participation was voluntary and that consent was implied by returning the questionnaire.

3.1.2 Measures

English questionnaires were translated in Dutch using back translation. Response format for all questionnaire items was on a 5-point response scale ranging from 1 (not at all true) to 7 (extremely true).

3.1.2.1 Perceived instructor support

Perceived instructor support was measured using a modified version of the Learning Climate Questionnaire (LCQ; Williams & Deci, 1997). The adjusted scale consisted of 7 items and asks recruits to think about their group-instructors. Example items are ‘My instructor provides me with choices and options’, ‘My instructors convey confidence in my ability to finish basic military training’, and ‘I feel understood by my instructors’. We added three items to the scale concerned with the instructor’s function of role model, because this can be especially important during military training. An example item is ‘I want to be like my instructor’. The scale’s internal consistency was good (Cronbach’s $\alpha = .90$).

3.1.2.2 Self-efficacy

We constructed a self-efficacy scale based on Bandura (1997) measuring recruits confidence in their ability to finish basic military training. The scale consisted of 13 items. Example items are ‘I expect I will be physically strong enough to finish basic military training’, ‘I expect I will be able to finish the training also if other people doubt it’, ‘I think I have the abilities to become a sailor’. The scale’s internal consistency was good (Cronbach’s $\alpha = .95$).

3.1.2.3 Perceived training value

Perceived training value was measured using a modified version of a three-item scale developed by Hardre and Reeve (2003). Items were 'What I learn during basic military training is valuable', 'What I learn during basic military training is important for my future work', and 'I value the activities during basic military training'. The scale's internal consistency was good (Cronbach's $\alpha = .75$).

3.1.2.4 Perceived job value

Based on Mobley, Hand, Baker and Meglino's (1979) concept of Role Outcome Expectancy we constructed a scale measuring the perceived value of the future job as sailor. The scale consisted of 6 items. An example item is 'Being a sailor you get respect'. The scale's internal consistency was good (Cronbach's $\alpha = .90$).

3.1.2.5 Coping

Coping was measured using a short-form of the COPE (Carver, Scheier & Weintraub, 1989). To measure problem focused coping the subscales active coping, positive reinterpretation and social support were combined. The combined scale consisted of 7 items and had good internal consistency (Cronbach's $\alpha = .84$). To measure passive coping the subscales denial, acceptance, behavioural disengagement and venting emotions were used. The combined scale consisted of 7 items and had sufficient internal consistency when taking into account the diversity of item content (Cronbach's $\alpha = .65$).

3.2 Results

The primary goal of Resilience XL was to lower attrition levels during basic training. However, attrition levels did not differ: in both cohorts attrition was 19%. It is difficult to explain these results based on two cohorts ($n = 1$ per condition). To decide whether Resilience XL contributes to lower attrition levels it has to be structurally implemented in Navy basic training. Another way to test effectiveness of Resilience XL was to compare the cohorts on resilience development as measured by the person characteristics and beliefs we expect to be related to resilience. To test the differences between the experimental and control cohort on the variables, we conducted repeated measures ANOVA's with time as within subjects factor (5 levels) and group as between subject factor. We conducted two types of repeated measures ANOVA's: one with polynomial contrast to test for linear development over time and one with difference contrast to test for differences in development between two (sequential) measurements in time. Below we discuss the results per variable. In the analyses, only participants who returned all questionnaires were included. This resulted in 36 recruits in the experimental cohort 74 recruits in the control cohort.

3.2.1 Self-efficacy

The results of the polynomial contrast ANOVA showed that both cohorts have a linear development during Navy basic training (See Figure 1, note self-efficacy axis ranges from 5.8 to 6.5). For both cohorts self-efficacy increased over time ($F = 37.1$, $p < .01$, $\eta = .26$). The cohorts did not differ in their linear development (no main effect). In addition, the results of the difference contract ANOVA showed an interaction effect between factor time and cohort: between T1 and T2 the experimental cohort showed a (marginal significant) stronger increase in self-efficacy compared to the control cohort ($F = 3.67$, $p < .058$, $\eta = .03$). These results provide weak support for the expectation that self-efficacy levels would be higher for the experimental cohort compared to the control cohort. Only between T1 and T2 was this expectation supported.

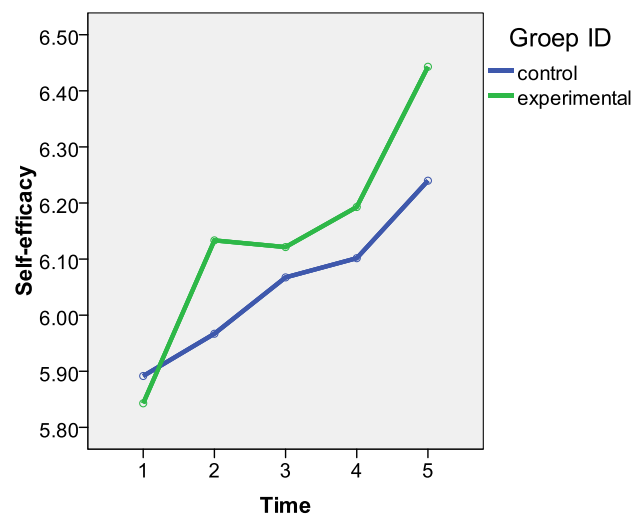


Figure 1: Self-efficacy

3.2.2 Problem focused coping

The results of the polynomial contrast ANOVA showed no linear development and the cohorts did not differ in overall levels of problem focused coping (no main effect). The results of the difference contrast ANOVA showed an interaction effect between factor time and cohort: between T1 and T2 the experimental cohort showed an increase in the use of problem focused coping and the control cohort showed a decrease ($F= 4.83, p<.05, \eta= .04$) (See Figure 2, note problem focused coping axis ranges from 5.6 to 5.8). These results do not support the expectation that problem focused coping levels would be structurally higher for the experimental cohort compared to the control cohort. Only between T1 and T2 was this expectation supported.

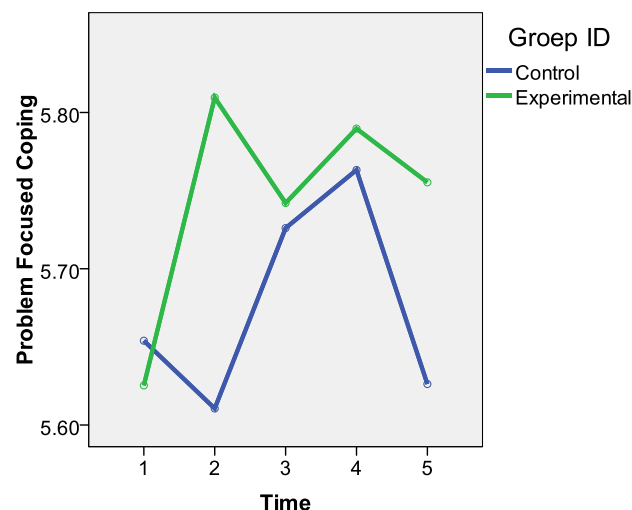


Figure 2: Problem focused coping

3.2.3 Passive coping

The results of the polynomial contrast ANOVA showed that both cohorts have a linear development during Navy basic training (See Figure 3, note passive coping axis ranges from 2.9 to 3.7). For both cohorts the use of passive coping declined over time ($F= 29.01, p<.01, \eta =.21$). The cohorts did not differ in their linear development (no main effect). In addition, the results of the difference contrast ANOVA showed a interaction effect between factor time and cohort: between T2 and T3 the experimental cohort showed a stronger decline in the use of passive coping compared to the control cohort ($F= 4.70, p<.05, \eta = .06$).). These results weakly support the expectation that passive coping levels would be lower for the experimental cohort compared to the control cohort. Only between T2 and T3 was this expectation supported.

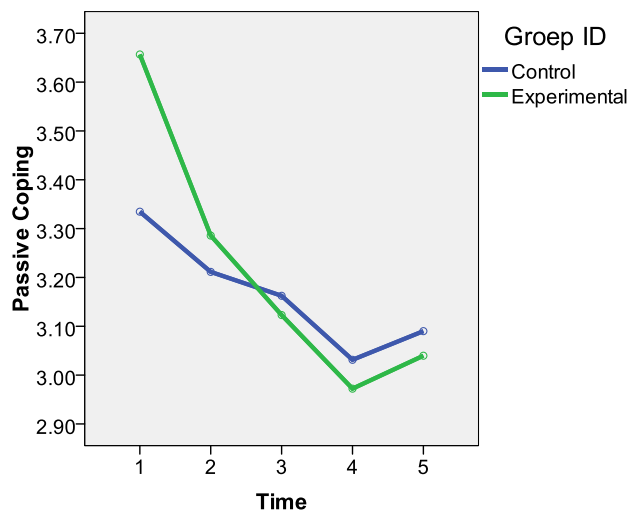


Figure 3: Passive coping

3.2.4 Perceived training value

The results of the polynomial contrast ANOVA showed no linear development and the cohorts did not differ in overall levels of problem focused coping (no main effect). The results of the difference contrast ANOVA showed a main effect between T4 and T5: both cohorts showed an increase in perceived training value in this period ($F= 4.57, p<.05, \eta = .04$) (See Figure 4, note perceived training value axis ranges from 5.6 to 6.1). The expectation that the experimental cohort would value the training higher than the control cohort was not supported as the cohorts did not show significant differences in overall levels or development of perceived training value.

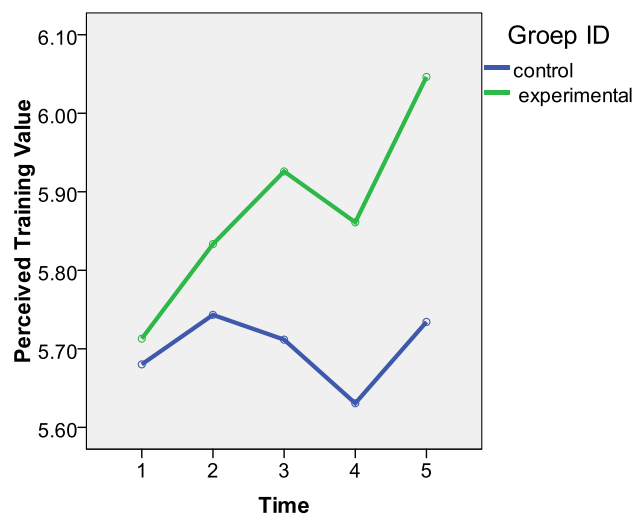


Figure 4: Perceived training value

3.2.5 Perceived job value

The results of the polynomial contrast ANOVA showed there was a main effect for cohort ($F= 24.39$, $p<.05$, $\eta= .04$): overall the experimental cohort ($M=5.87$) valued their future job more compared to the control cohort ($M=5.42$) (See Figure 5, note perceived job value axis axis ranges from 5.2 to 6.2). In addition, this analysis showed that a linear development during Navy basic training ($F= 14.25$, $p<.01$, $\eta = .12$) and an interaction effect between the cohorts and this linear development ($F= 3.82$, $p=.05$, $\eta = .03$). The experimental cohort showed a stronger overall increase in perceived job value compared to the control cohort. The results of the difference contrast ANOVA showed an interaction effect between T1 and T2 ($F= 7.24$, $p<.01$, $\eta = .09$): between T1 and T2 the perceived job value increased for the experimental cohort and did not increase for the control cohort. These results supported our expectation that the experimental cohort would value their future job more than the control cohort. Both in overall levels as in development did the experimental group show stronger appreciation of their future job.

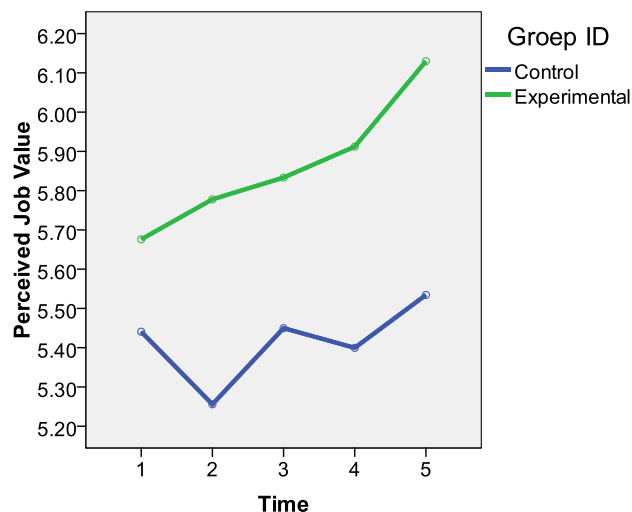


Figure 5: Perceived job value

3.2.6 Perceived instructor support

The results of the polynomial contrast ANOVA showed that both cohorts have a linear development during Navy basic training (See Figure 6, note perceived instructor support axis ranges from 5.6 to 6.2). For both cohorts perceived instructor support increased over time ($F= 10.96, p<.01, \eta = .09$). The cohorts did not differ in their linear development (no main effect). In addition, the results of the difference contract ANOVA showed an interaction effect between factor time and cohort: between T4 and T5 the experimental cohort showed a stronger increase in perceived instructor support compared to the control cohort ($F= 6.63, p<.05, \eta = .06$). These results weakly support the expectation that passive coping levels would be lower for the experimental cohort compared to the control cohort. Only between T4 and T5 was this expectation supported.

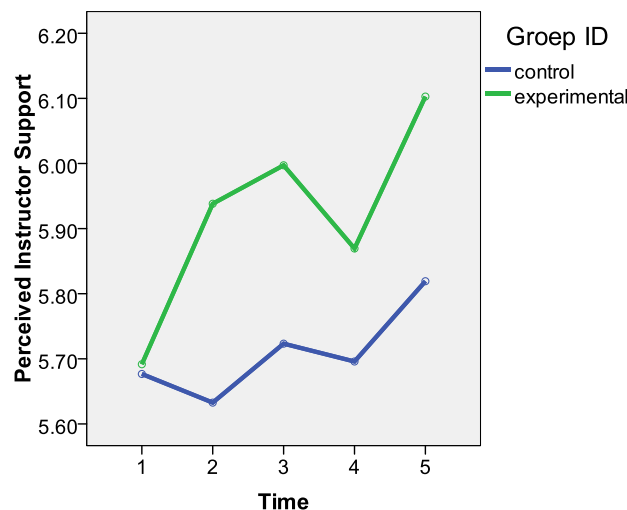


Figure 6: Perceived Instructor Support

4.0 CONCLUSION AND DISCUSSION

In order to reduce turnover during the Dutch Navy basic training, we developed a resilience program and effectuated a study to test effectiveness of this training. The program design was based on literature on turnover and resilience and interviews with instructors, trainers, students and school leaders. Due to this investment, the program design was aimed to be well integrated with the recruit training. However during the training, we found that training implementation could still be improved by integrating all activities of the resilience program into the regular schedule of the school. Also, more time and attention should be given to the collaboration between the instructor and trainer. By integrating the resilience program entirely in to the basic training program, the acceptance and actual effect is expected to increase.

Besides a program evaluation, we tested effectiveness of the training by investigating differences in turnover, and the development of person characteristics and beliefs that were expected to be positively related to resilience. These person characteristics and beliefs were addressed in the resilience training and therefore we expected these to develop more effectively in the experimental cohort compared to the control cohort.

Despite the above described integration issues, students that received the resilience program showed a slight increase in resilience related person characteristics (i.e, self-efficacy and coping style). The experimental cohort showed a stronger increase in self-efficacy and problem-focused coping in the first week after Resilience training started, and a stronger decrease in passive coping in the second week after Resilience training started compared to the control cohort. This suggests that the beneficial effects of Resilience XL took place shortly after the recruits received a full day of resilience knowledge and

awareness enhancement. After a while these effects seem to fade out. This would confirm the importance of reinforcing resilience training by having instructors coach recruits on resilience on a daily basis. This was supposed to be part of resilience XL, but did not work out as planned due to above mentioned implementation issues.

In addition, the results showed some differences between the experimental and control cohort in beliefs that we expected to be related to turnover (i.e., perceived training value, perceived job value, perceived instructor support). Recruits in the experimental condition valued their future job more compared to the control cohort: their appreciation for the future job was higher in general and increased more strongly during basic training. The cohorts did not differ on perceived training value. The cohorts only differed in perceived instructor support in the last half of Navy basic training: in this period recruits from the experimental cohort showed a strong increase in appreciation of their instructor compared to the control cohort. Thus, the effects of Resilience XL on recruits' beliefs are equivocal. Resilience XL does seem to effect perceived job value and not perceived training value. This is contrary to our expectations as we would expect the latter to be more easily influenced. This result could be attributed to the implementation difficulties, in that instructors were not motivated enough to engage in supportive coaching activities. However, only a study in which resilience training is optimally integrated in basic training could confirm these beliefs.

Finally, the cohorts did not differ in levels of turnover. This could be due to the above described implementation issue, but we should also note that on the basis of this study it is difficult to assess differences in turnover levels as we only have two data-points. Only when Resilience XL is structurally implemented in Navy basic training can we investigate differences and developments in turnover levels due to resilience training.

To conclude, Resilience XL seems to have moderate positive effects on recruits' resilience during basic training. These effects could be stronger if Resilience XL had been better integrated in basic training. The resilience program was specifically developed for the Dutch Navy basic training. However, the principles of Resilience XL can easily be translated to other schools because reasons for drop out are often similar. It is important, nevertheless, that the chosen intervention and its design is in line with the culture and needs of the school and that it becomes fully integrated in to the schools' schedule and is accepted by trainers and instructors.

5.0 REFERENCES

- [1] Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- [2] Carver, C. S., & Scheier, M. F. (1994). Situational coping and coping dispositions in a stressful transaction. *Journal of Personality and Social Psychology*, 66, 184-195.
- [3] Carver, C.S., Scheier, M.F., & Weintraub, J.K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- [4] Cigrang, J. A., Todd, S. L., & Carbone, E. G. (2000). Stress Management Training for Military Trainees Returned to Duty After a Mental Health Evaluation: Effect on Graduation Rates. *Journal of Occupational Health Psychology*, 5, 48-55.
- [5] Deci, E. L. (1995). *Why we do what we do: Understanding self-motivation*. New York: Penguin Books
- [6] Delahaij, R. , Gaillard, A. W. K. , & van Dam, K. (2010). Hardiness and the response to stressful situations: Investigating mediating processes. *Personality and Individual Differences*, 49, 386-390.

- [7] Folkman, S., & Moskowitz, J. T. (2004). Coping: pitfalls and promise. *Annual Review of Psychology*, 55, 745-747.
- [8] Hardre, P., & Reeve, J. (2003). A Motivational Model of Rural Students' Intentions to Persist in, Versus Drop Out of, High School. *Journal of Educational Psychology*, vol95, nr 2, p347-356.
- [9] Meichenbaum, D. (1985). *Stress Inoculation Training*. New York : Pergamon.
- [10] Mobley, W. H., Hand, H. H., Baker, R. L., & Meglino, B. M. (1979). Conceptual and Empirical Analysis of Military recruit training Attrition. *Journal of Applied Psychology*, vol64, p10-18.

